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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/467,721	12/20/1999	KENDYL A. ROMAN		2729

7590 04/20/2005
KENDYL A ROMAN
730 BANTRY COURT
SUNNYVALE, CA 940873402

EXAMINER

AN, SHAWN S

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/467,721	ROMAN, KENDYL A.	
	Examiner	Art Unit	
	Shawn S An	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 and 16-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>see Other</u> . | 6) <input checked="" type="checkbox"/> Other: <u>3/17/03, 11/15/04, 4/01/2005</u> . |

DETAILED ACTION

Response to Remarks

1. Applicant's arguments filed 11/23/04 with respect to claims 11-15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 11-12 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al (6,058,215) in view of Chang et al (6,005,979) and Yoshida et al (5,271,072).

Regarding claims 11, 14, and 15, Schwartz et al discloses a machine for compressing video frames, comprising:

- a video digitizer (col. 5, lines 5-8) for digitizing a frame from the video frames;
- a video memory for receiving a plurality of pixels (col. 5, lines 3-5);
- an encoding circuit (Fig. 1B) for sub-sampling from each pixel (121) when scanning the plurality of pixels and outputting a series of encoded data comprising a combined run-length (run) field and a data (length) field, known as run-length encoding (124); and
- a memory for storing encoded data and an input/output devices, which are storage medium and a communications transmission channel (Fig. 1B, Channel/storage).

Note: conventionally, run-length encoding (RLE) consists of string of bits as a number indicating the length of a series of zeroes, followed by a non-zero element, and repeats 'til end. Likewise, Applicant's invention comprises run length encoding as shown on Fig. 6.

Schwartz et al does not specifically disclose counting repeated instances of a pixel value comprising a number of pixel bits sub-sampled from each pixel when scanning the plurality of pixels.

Chang et al teaches a simple system of data compression by subsampling comprising counting repeated instances of a pixel value (pixels of rows and columns) (Fig. 3a; col. 15, lines 5-26) comprising sub-sampled image data (subsample of the Fig. 3a, data)(Fig. 3b), when scanning the plurality of pixels (col. 15, lines 34-42) (col. 8, lines 16-18), and outputting a series of encoded data comprising a combined run-length (run) field and a data (length) field, known as run-length encoding (Fig. 1, 27) for rapid, simple, and inexpensive way to encode image data (col. 11, lines 31-35, lines 63-66).

Chang et al subsamples image data as opposed to subsampling each pixel bits.

However, it is conventionally well known to subsample each pixel data.

Furthermore, Yoshida et al teaches an image reduction apparatus (encoder) comprising subsampling each pixel data (Fig. 1, 6; col. 5, lines 24-26).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a machine for compressing video frames as taught by Schwartz et al to incorporate the well known concepts as taught by Chang et al and Yoshida et al for counting repeated instances of a pixel value comprising a number of pixel bits sub-sampled from each pixel when scanning the plurality of pixels so as to provide a rapid, simple, and inexpensive substantially lossless encoding scheme, thereby saving costs as well as time associated with the typical encoding scheme.

Regarding claim 12, Chang et al discloses selecting a set of 24 as the number of pixel bits (col. 1, lines 33-43).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a machine for compressing video frames as taught by Schwartz

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et al to incorporate the 24 bits/pixel so as to subsample the 24 bits into a compressed bits as desired by the designer/user.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al, Chang et al, and Yoshida et al as applied to claim 11 above, and further in view of Frederiksen (4,743,959).

Regarding claim 13, the combination of Schwartz et al and Chang et al does not specifically disclose the pixel bits being extracted from the most significant bits of each color component.

However, Frederiksen teaches the pixel bits being extracted from the most significant bits of each color component (col. 7, lines 58-62) for filtering out noises which could happen in a low ordered bits.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a machine for compressing video frames as taught by Schwartz et al to incorporate the well known concept of the pixel bits being extracted from the most significant bits of each color component as taught by Frederiksen for filtering out noises which could happen in a low ordered bits.

Conclusion

5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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6. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Shawn S An whose telephone number 571-272-7324.



SHAWN AN
PRIMARY EXAMINER

4/17/05